

MEMORANDUM

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DATE: September 11, 2013

SUBJECT: Operational Position Statement for the Week of September 10-16, 2013

The U.S. Army Corps of Engineers (USACE) is responsible for managing Lake Okeechobee water levels and makes operational decisions about whether to retain water or release water based on their regulation schedule release guidance (2008 LORS). The USACE makes this decision taking into account the best available science and data provided by its staff and a variety of partners, which includes the South Florida Water Management District (SFWMD).

The SFWMD team has discussed the system wide environmental conditions, the water supply conditions, and has evaluated the overall status of the water management system. Detailed reports are available at the SFWMD's Operational Planning internet page.

Recommendation to the USACE

This week the SFWMD recommends the USACE follow the 2008 LORS release guidance to manage the Lake stage. The Lake stage has receded during the past week and is 0.2 feet below the Intermediate Subband. Part D suggests "S-79 up to 3000 cfs, and S-80 up to 1170 cfs". Part C of the 2008 LORS suggests "Up to maximum practicable releases to WCAs if desirable or with minimum Everglades impacts".

SFWMD estuary scientists recommend that the S-79 average flow rate should not exceed 1500 cfs frequently. Average flows that exceed 2800 cfs should be minimized because flows greater than this can cause salinity near Shell Point to drop to levels that threaten many species in the area including oysters and seagrasses.

SFWMD scientists also suggest that given the amount of recent inflow of freshwater from local runoff and Lake inputs and current salinity conditions, the estuary has received too much inflow. A maximum inflow rate of 1170 cfs or less at S-80 is recommended to allow the estuary to recover.

The SFWMD will continue to follow the 2008 LORS and USACE release guidance and not make Lake regulatory discharges to WCA-2A or WCA-3A because stages remain well-above their regulation schedules. However, the SFWMD continues to release Lake regulatory discharges from S-352 in an effort to pass treated flows through WCA-1 to tide. Some of the recent S-352 flow has met irrigation needs along the WPB Canal, and some has passed through WCA-1 via S-39 after treatment by STA-1E. This operation is not continuous due to a variety of factors, but the key point is Lake O releases at rates of about 400 cfs are being discharged toward STA-1E and through WCA-1 as conveyance conditions allow.

Further details are provided below, which includes optional S-79 and S-80 pulse-release patterns suggested by SFWMD estuary scientists.

Weather and Climate

Rainfall during the past week totaled 1.54 inches district wide (through 7 a.m. September 10th). About 1.25 inches of rain fell directly over Lake Okeechobee during the past 7-days. District-wide rainfall during the past 30 days totaled 6.34 inches (13% below average). August ended 22% below average and was the driest August since 2007. However the April-August period was 2nd wettest back to the dataset that begins in 1932 (1947 was wettest by 0.37").

The combined Upper and Lower Kissimmee Basins received rain averaging about 1.6 inches during the past week. For the past 30-days the upper basin received about 4% above-average rainfall, while the lower basin also received about 4% above-average.

The SFWMD short-term weather forecast for the next week indicates above-average rainfall. Week two will likely have near-average rainfall, with the recognition of relatively high uncertainty this time of year. The available (31-Aug) Climate Prediction Center (CPC) outlook for September shows slightly increased chances of above-normal rainfall for central and southern Florida. For the three-month windows through Oct-Nov-Dec, the available CPC outlook (15-Aug) shows equal chances of above-normal, normal or below-normal rainfall for central and southern Florida. The three-month window (Nov-Dec-Jan) indicates increased chances of below-normal rainfall for central and southern Florida.

Current Conditions and Operations

The September 9, 2013 Lake Okeechobee stage (reported by the USACE on September 10th) was 15.49 feet NGVD, 0.06 feet lower than last week. The Lake stage is 0.56 feet lower than it was a month ago and is about 0.7 feet higher than it was a year ago. The September 9th stage was 1.05 feet above the historical average for this date. The stage has receded slowly during the past week and remains within the Low Sub-band of the 2008 Lake Okeechobee Regulation Schedule (2008 LORS), about 0.2 feet below the Intermediate Sub-band.

Current average daily release rates (September 10th) at the Lake structures are 3,920 cfs at S-77 and 1,220 cfs at S-308. And at the tidal structures, current rates are about 8,950 cfs at S-79 and 1,800 cfs at S-80. These rates are all similar to those from a week ago. C-43 and C-44 basin runoff continues to contribute to the total flow to the estuaries.

Water releases from the WCAs to the lower east coast continue, to assist the USACE in lowering high water levels in the WCAs. Specifically WCA-2A and WCA-3A stages are above their respective regulation schedules and discharges through S-38 and S-31 are being made when downstream capacity is available. When conditions are conducive, Lake Okeechobee regulatory discharges are passing through WCA-1 to tide via S-39. The SFWMD is maximizing releases from S5AE, to the extent the capacity of the structure and available downstream stages and capacities (S-155A and S-155) allow, and now that the L-8 basin's runoff has decreased, practicable discharges from Lake Okeechobee (via C-10A) are being made.

2008 LORS Release Guidance (Part C): This week Part C again suggests "No releases to WCAs" as stages in WCA-2A and WCA-3A are above their regulation schedules. The Tributary Hydrologic Condition (THC) moved from the very wet to the wet classification two weeks ago. The THC is determined by the wetter of the Palmer Index and the Lake O Net Inflow. The Lake O Net Inflow has been in the wet classification since 26-August; and the Palmer Index moved from the normal to the wet classification 9-Sep (2008 LORS classifications).

WCA-2A and WCA-3A stages currently exceed their respective regulation schedules, therefore the LORS does not allow Lake O releases to the WCAs. WCA-3A water levels rose above the top of its regulation schedule in late May (Zone A), therefore the SFWMD discontinued Lake O regulatory discharges to WCA-3A per the 2008 LORS and USACE guidance at that time.

The SFWMD will continue to follow the 2008 LORS release guidance and not make Lake regulatory discharges to WCA-2A or WCA-3A because stages remain well-above their regulation schedules. However, the SFWMD is releasing Lake regulatory discharges from S-352 in an effort to pass treated flows through WCA-1 to tide. Some of the recent S-352 flow has met irrigation needs along the WPB Canal, and some has passed through WCA-1 via S-39 after treatment by STA-1E. This operation is not continuous due to a variety of factors, but the key point is that treated Lake O regulatory discharges are passing through WCA-1 as conveyance conditions allow. Current Lake releases at S-352 have been about 400 cfs.

System conditions continue to be monitored closely. Lake O regulatory discharges to WCA-3A will resume per Part C guidance when the WCA-3A stage recedes below Zone A and when conveyance and STA treatment capacities are available.

2008 LORS Release Guidance (Part D): This week Part D again suggests "S-79 up to 3,000 cfs, and S-80 up to 1,170 cfs. Currently releases are 8,950 cfs at S-79 and 1,800 cfs at S-80. The USACE reported last week and this week that they are considering further reductions in Lake O regulatory discharges.

For the St. Lucie Estuary, SFWMD estuary scientists state that given the amount of existing inflow of freshwater from local runoff and current salinity conditions, the estuary has received too much inflow. A maximum inflow rate of 1,170 cfs or less at S-80 is recommended to allow the estuary to recover.

For the Caloosahatchee Estuary, SFWMD estuary scientists recommend that the average flow rate should not exceed 1,500 cfs frequently. Average flows that exceed 2,800 cfs should be minimized because flows greater than this can cause salinity near Shell Point to drop to levels that threaten many species in the area including oysters and seagrasses.

Suggested alternative release patterns are provided here. The SFWMD recognizes that current C-43 basin runoff rates are relatively high (3860 cfs on 10-Sep). Therefore there may be limited capability to achieve the target S-79 pulse pattern, particularly the latter days when a flow recession is desired. The SFWMD encourages the USACE to implement the S-79 pulse pattern target when they deem conditions are favorable for achieving it.

	S-79 (10 day)	S-79 (7 day)	S-80 (10 day)	S-80 (7 day)
Day	3000 cfs	3000 cfs	1170 cfs	1170 cfs
1	3000	2500	1800	1500
2	5500	4000	2400	2190
3	5500	5000	2100	1500
4	5000	4000	1500	1000
5	4000	3000	1000	1000
6	3000	1500	900	500
7	2000	1000	600	500
8	1000		600	
9	500		400	
10	500		400	

SFWMD Lake Okeechobee Adaptive Protocol (AP) Release Guidance: This week the SFWMD's Lake Okeechobee Adaptive Protocol (AP) release guidance flowchart is not applicable since the 2008 LORS release guidance suggests releases higher than baseflow releases.

Note that the AP release guidance flowchart was designed primarily to guide release recommendations for circumstances when the Lake stage is within the Baseflow Subband or lower. The USACE's Water Control Plan (WCP) for Lake Okeechobee and the EAA recognizes that the SFWMD may allocate water to the environment through its "Adaptive Protocols" or other SFWMD authorities. The WCP provides guidance as to releases, including Adaptive Protocol recommendations, in the various Lake schedule subbands.

There are two primary branches of the AP release guidance flowchart. The upper branch pertains to the 2008 LORS baseflow (aka, regulatory) releases while the lower branch pertains to environmental water supply releases. It is important to recognize that the AP was developed primarily to guide the water supply balance between Caloosahatchee Estuary, permitted water users, and other water supply purposes of the water control system. The water supply balance achieved by following the AP release guidance was evaluated by the Water Resources Advisory Commission and the SFWMD Governing Board, leading to board acceptance in September, 2010. Final Adaptive Protocols for Lake Okeechobee Operations (September 16, 2010).

For additional information pertaining to operations history and past recommendations, refer to the archives of LORS-2008 Release Guidance outcomes and operational position statements at www.sfwmd.gov under the Operational Planning topic.